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CORNING INCORPORATED  
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CORNING, NY 14831

EXAMINER
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HOFFMANN, JOHN M

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UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE  
THE PATENT TRIAL AND APPEAL BOARD

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*Ex parte* ANATOLI ANATOLYEVICH ABRAMOV,<sup>1</sup>  
James William Brown, Chester Hann Huei Chang,  
Sean Matthew Garner, and Xinghua Li

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Appeal 2015-007389  
Application 13/182,029  
Technology Center 1700

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Before MARK NAGUMO, KAREN M. HASTINGS, and  
BRIAN D. RANGE, *Administrative Patent Judges*.

NAGUMO, *Administrative Patent Judge*.

DECISION ON APPEAL

Anatoli Anatolyevich Abramov, James William Brown,  
Chester Hann Huei Chang, Sean Matthew Garner, and Xinghua Li  
(Abramov) appeal under 35 U.S.C. § 134(a) from the Final Rejection<sup>2</sup> of all  
pending claims 1–19. We have jurisdiction. 35 U.S.C. § 6. We reverse for  
reasons well-stated by Abramov.

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<sup>1</sup> The real party in interest is identified as Corning Incorporated. (Appeal Brief, filed 23 February 2015 (“Br.”), 2.)

<sup>2</sup> Office Action mailed 16 October 2014 (“Final Rejection”; cited as “FR”).

## OPINION

### A. Introduction<sup>3</sup>

The subject matter on appeal relates to methods of fabricating glass ribbons by severing at least one edge portion from a central portion of the glass ribbon. A key feature of the claimed process is to provide a bent target segment in the cutting zone where the glass ribbon is cut. Bending the glass ribbon is said to increase the rigidity of the glass ribbon throughout the bend (Spec. 7 [0040] ll. 18–20) and throughout the cutting zone (*id.* at 8 [0044], ll. 25–26). The resulting stabilization is said to “help prevent bucking or disturbing the glass ribbon profile,” and to “allow optional fine tune adjustment of the lateral orientation of the bent target segment” during severing of opposed edge portions of the ribbon. (*Id.* at 9 [0045] ll. 5–11.) An example of an apparatus designed to perform the claimed process is shown in Figures 1 and 3, reproduced on the following page.

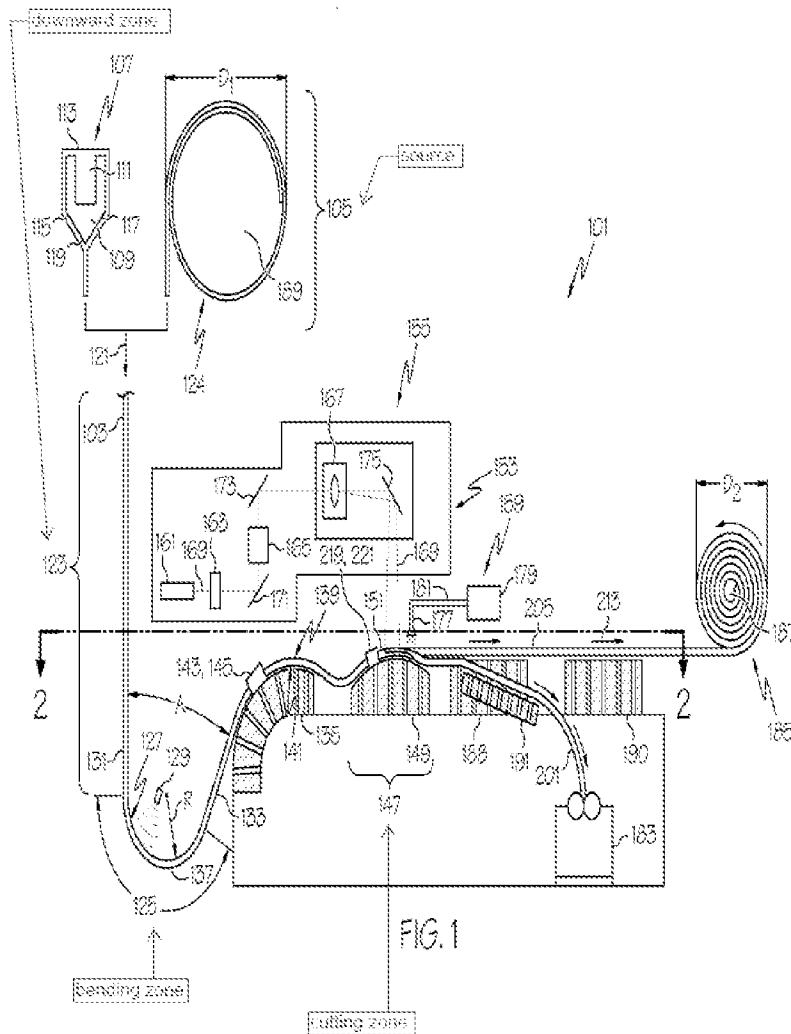
As shown in Figure 1, glass ribbon **103**<sup>4</sup> issues from a source, such as a trough of molten glass from which the ribbon is drawn. (Spec. 5 [0035] ll. 9–11.) Such ribbons have opposed edge portions **201**, **203** with corresponding beads **207**, **209** that are thicker than central portion **205**. (*Id.* at ll. 21–25; *see also* Figure 2, not reproduced here.) The ribbon traverses downward zone **123** and passes up through bending zone **125**

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<sup>3</sup> Application 13/182,029, *Methods of fabricating a glass ribbon*, filed 13 July 2011, claiming the benefit of a provisional application filed 30 March 2011. We refer to the “’029 Specification,” which we cite as “Spec.”

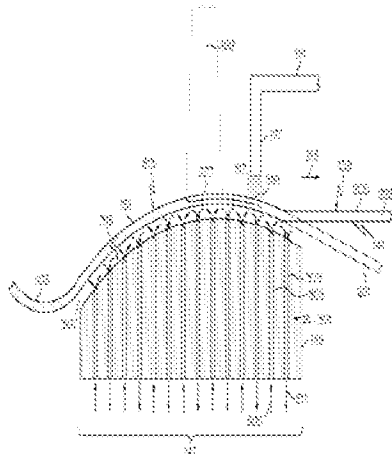
<sup>4</sup> Throughout this Opinion, for clarity, labels to elements are presented in bold font, regardless of their presentation in the original document.

{Figure 1 is shown below}



{Figure 1 shows a glass cutting apparatus; annotations added}

{Figure 3 is shown below}



{Figure 3 shows a detail of cutting zone 147; note cooling zone 317}

to cutting zone **147** over cutting support element **149**, which presents a bent target segment **151** to cutting laser beam **169**.

Claim 1 is representative and reads:

A method of fabricating a glass ribbon comprising the steps of:

- (I) providing a source **[105]** of the glass ribbon **[102]** with  
a pair of opposed edge portions and  
a central portion laterally spanning between the opposed  
edge portions;
- (II) traversing the glass ribbon in a downward direction  
relative to the source through a downward zone **[123]**;
- (III) bending the glass ribbon in a bending zone **[125]**  
downstream from the downward zone, wherein  
the glass ribbon comprises an upwardly concave surface  
through the bending zone;
- (IV) traversing the glass ribbon through a cutting zone **[147]**  
downstream from the bending zone;
- (V) *bending [149] the edge portions and the central portion*  
*of the glass ribbon in the cutting zone* to provide  
a bent target segment **[151]** with  
non-planar bent edge portions and  
a non-planar bent central portion in the cutting zone; and
- (VI) *severing [169] at least one of the non-planar bent edge*  
*portions from the non-planar bent central portion within the*  
*cutting zone, wherein the severing occurs*  
*at a location of the bent target segment where*  
the non-planar bent edge portions and the  
non-planar bent central portion  
*are non-planar and bent.*

(Claims App., Br. 16; some indentation, paragraphing, bracketed labels to elements shown in Figures 1 and 3, and emphasis added.)

The Examiner maintains the following grounds of rejection<sup>5, 6</sup>:

- A. Claims 1–19 stand rejected under 35 U.S.C. §112(2) in the term “severing.”
- B. Claims 1, 3–12, 14–16, 18, and 19 stand rejected under 35 U.S.C. § 103(a) in view of the combined teachings of Kondo<sup>7</sup> and Ostendarp.<sup>8</sup>
- B1. Claim 2 stands rejected under 35 U.S.C. § 103(a) in view of the combined teachings of Kondo, Ostendarp, and Devol.<sup>9</sup>
- B2. Claims 13 and 19 stand rejected under 35 U.S.C. § 103(a) in view of the combined teachings of Kondo, Ostendarp, and Tomamoto.<sup>10</sup>

B. Discussion

The Board’s findings of fact throughout this Opinion are supported by a preponderance of the evidence of record.

*Indefiniteness: Rejection A*

The Federal Circuit has explained that indefiniteness, as a subset of claim construction, is a question of law. *In re Packard*, 751 F.3d 1307, 1313

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<sup>5</sup> Examiner’s Answer mailed 10 June 2015 (“Ans.”).

<sup>6</sup> Because this application was filed before the 16 March 2013 effective date of the America Invents Act, we refer to the pre-AIA version of the statute.

<sup>7</sup> Satoshi Kondo, *Process for producing glass/resin composite*, WO 2009/093505 (30 July 2009); EP 2 236 281 A1 (6 October 2010) has been used, without objection, as a translation.

<sup>8</sup> Heinrich Ostendarp et al., *Method and apparatus for making individual glass panes*, U.S. Patent No. 6,502,423 B1 (2003).

<sup>9</sup> Manson L. Devol, U.S. Patent No. 2,505,103 (1950).

<sup>10</sup> Masahiro Tomamoto et al., U.S. Patent Application Publication 2011/0223386 A1 (15 September 2011), based on an application filed 7 March 2011.

(Fed. Cir. 2014). In particular, the court held, “[a]s the statutory language of ‘particular[ity]’ and ‘distinct[ness]’ indicates, claims are required to be cast in clear—as opposed to ambiguous, vague, indefinite—terms. It is the claims that notify the public of what is within the protections of the patent, and what is not.” *Id.*

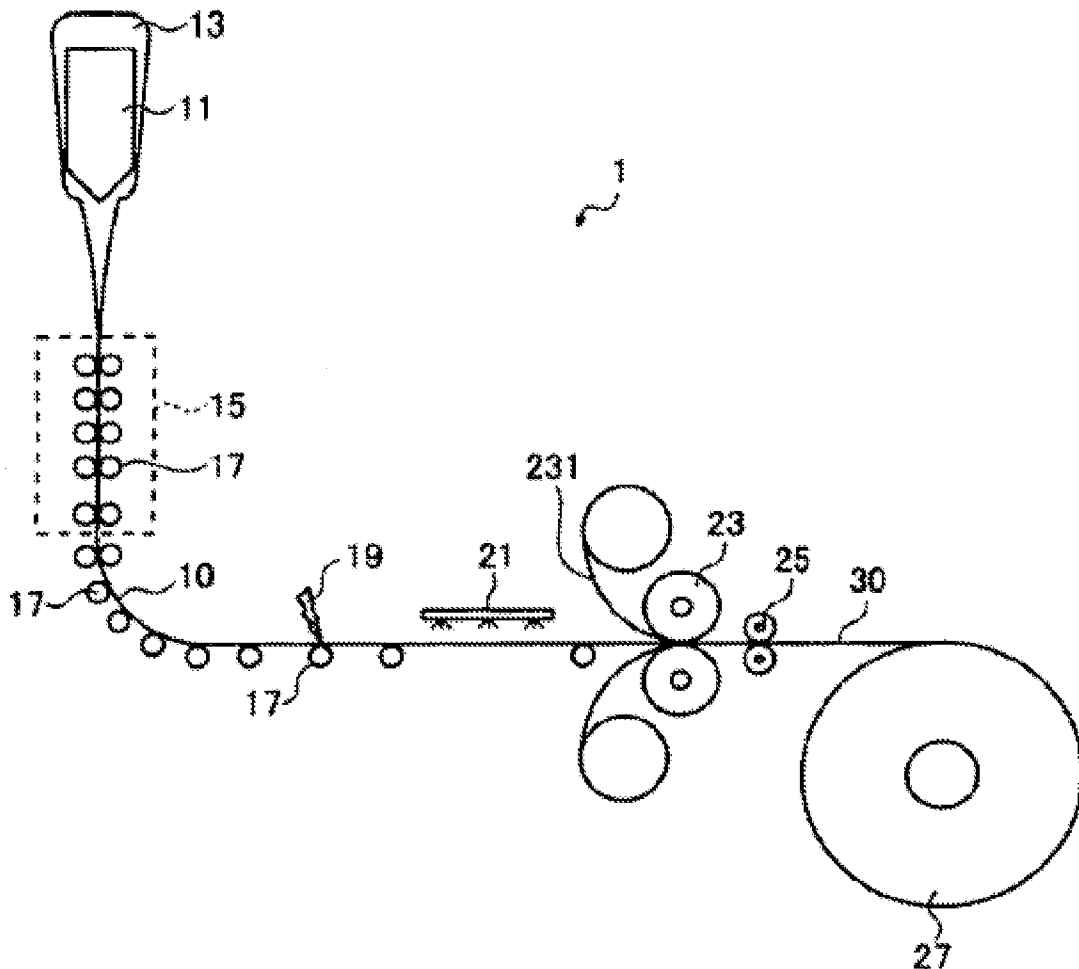
The Examiner holds the claims indefinite because there is, in the Examiner’s view, confusing antecedent basis for the term “severing.” (FR 2, l. 16.) In the Examiner’s words, “it is unclear whether it is referring to the step of severing, or the implicit result of glass being severed as a consequences of the acts(s) in the step of severing.” (FR 3, ll. 1–2.)

We shall not sustain this rejection. In claim 1, the phrase “wherein the severing” refers back to the previously recited act of severing, and refers forward to the location of the act of severing. The recitation, “the severing occurs” requires that “the severing” refer to an act (i.e., the step of severing) rather than an object (i.e., the severed glass that is the consequence of the severing). Acts can occur; objects cannot. The Examiner has not directed our attention to any significant ambiguity in the statements in part (VI) of claim 1 that the severing occurs “within the cutting zone” and “at a location of the bent target segment” that is non-planar and bent. These conditions reveal further the lack of merit in the Examiner’s attempt (*id.* at 5, last para.) to expand the location of the severing to points outside of the cutting zone and outside of the apparatus. Nor has the Examiner directed our attention to any disclosure in the Specification indicating that any meaning broader than the usual meaning should be attached to any of the terms.

The rejection of claims 1–19 as indefinite is reversed.

*Obviousness: Rejections B–B2*

As Abramov urges (Br. 8–9), the rejection for obviousness is based on the interpretation, “the cutting zone starts at the left of **19** and covers everything to the right” (FR 4, l. 12). Kondo identifies element **19** as a laser cutting apparatus (Kondo 4, l. 11) in Figure 1, which is reproduced below.



{Kondo Figure 1 shows a glass resin composite formation line}

In particular, the Examiner finds that “[t]he bending of the central portion occurs at **27**.” (FR 5, l. 5.)

We shall not sustain this rejection. Review of the disclosure of Kondo reveals that the Examiner had no other choice in Kondo to find bending of



the ribbon in the cutting zone than on the take-up bobbin **27**. This is not a reasonable interpretation of the term “cutting zone.” The Examiner has not directed our attention to any expansive or ambiguous language in the Specification that might indicate a broader reading of that term is suggested or required.

Moreover, the Examiner interprets the term “location” in an overly broad manner. (FR 5.) Claim 1 recites, “the severing occurs at a location of the bent target segment where the non-planar bent edge portions and the non-planar bent central portion are non-planar and bent.” As discussed *supra*, the recited location refers to a particular region on the glass ribbon. The Examiner’s view that “location” could be anywhere within the factory or city the glass is worked in (FR 5; Ans. 7) is unreasonable.

The Examiner makes no findings regarding the limitations recited in the other claims, and no findings regarding the other references, that cure this fundamental defect.

We reverse Rejections B for obviousness.

C. Order

It is ORDERED that the rejection of claims 1–19 is reversed.

REVERSED